EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Peter Trahms-Neudorfer on September 23, 2008.

The application has been amended as follows:

Please amend the TITLE as follows: Dynamic page generation acceleration using component-level caching by determining a maximum navigation probability for a particular cacheline

Claim 32, line 7, after the phrase "plurality of probabilities", insert ---, wherein the plurality of probabilities comprises each probability for each other cacheline ---.

Claim 32, lines 8-9, after the phrase "and wherein", delete "said plurality of probabilities" and insert ---each probability is---.

Claim 32, line 9, delete "said other" and insert ---the corresponding---.

Claim 40, line 8, after the phrase "plurality of probabilities", insert ---, wherein the plurality of probabilities comprises each probability for each other cacheline ---.

Claim 40, line 10, after the phrase "and wherein", delete "said plurality of probabilities" and insert ---each probability is---.

Claim 40, line 11, delete "said other" and insert ---the corresponding---.

REASONS FOR ALLOWANCE

2. The following is an examiner's statement of reasons for allowance: The prior art of record does not provide for, nor suggests providing for a system for caching documents by computing a maximum navigation probability field and associating this field with the particular cacheline. As stated in pages 37-38 a navigation probability represents the conditional probability that a user will request the content element contained in a specific cacheline given that he has followed a path CSL (i.e. the maximum clickstream (i.e. a clickstream is defined as a series of recorded user actions, such as clicks on hyperlinks) length that is stored for the particular user). For a set of cachelines, a maximum navigation probability of a corresponding cacheline is the maximum of all the navigation probabilities of all of the particular predecessors contained in the clickstream. Each of the predecessor navigation probabilities is computed in one of three ways:

- If the cacheline has no predecessors, then the probability is 1,
- If the cacheline has a single predecessor, then the probability is the navigation probability obtained from the Profiler (i.e. hint).
- If the cacheline has multiple predecessors, then the probability of that particular cacheline is the maximum navigation probability of all that particular cacheline's predecessors (i.e. a recursive function).

Each of the cachelines will store the MNP for the particular cacheline. Once a new insertion is completed, the MNP of all the cachelines are recalculated to

compensate for the change in the particular cache. The Profiler provides a hint 1200 to the caching system based on the rules stored in the rule warehouse. The profiler can return a hint that indicates that there is a 70% probability that the user will request N_d, given that the user has most recently requested $<N_a, N_b, N_c>$. as shown in Figure 12. These MNP's of each and every cacheline permit the system to determine which cacheline should be replaced based on the current clickstream.

The closest prior art of record is Horvitz '565. Horvitz discloses a caching system which receives a content element insertion request, based on a currently retrieved URL, determine a set of URLs that may be accessed next, assign probabilities to these various URLs, and prefetch a plurality of URLs that have a likelihood of being accessed next (Figure 8). Horvitz does not specifically disclose that the element which is prefetched is stored with a MNP based on a clickstream history (i.e. navigation history) as described above. One of ordinary skill in the art would view this as a novel and non-obvious modification to Horvitz.

For these reasons, in conjunction with the other limitations of the independent claims, puts this case in condition for allowance.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Specification

3. The Office has considered the amendment to the specification. No new matter has been added by way of this amendment. The objection to the specification is hereby withdrawn.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph E. Avellino whose telephone number is (571) 272-3905. The examiner can normally be reached on Monday-Friday 7:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey C. Pwu can be reached on (571)272-6798. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Joseph E. Avellino/
Primary Examiner, Art Unit 2146